Revision 1

#14360 Store at -20C

MED12 (D9K5J) Rabbit mAb

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	H M R Mk	Endogenous	240	Rabbit IgG	#Q93074	9968

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. *Do not aliquot the antibody.*

Specificity / Sensitivity

MED12 (D9K5J) Rabbit mAb recognizes endogenous levels of total MED12 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly1813 of human MED12 protein.

Background

The mediator complex consists of about 25-30 proteins and is thought to facilitate transcription activation by acting as a molecular bridge between the RNA polymerase II (RNAPII) machinery and transcription factors (1). Mediator is recruited to target genes by transcription factors and plays an essential role in the recruitment and stabilization of the RNAPII transcription complex at promoters, as well as the activation of transcription post RNAPII recruitment (1-5). The mediator complex also plays an important role in creating ‘chromatin loops’ that occur as a result of interactions between the transcription factor bound at distal enhancers and RNAPII bound at the proximal promoter, and works to sustain proper chromatin architecture during active transcription (6-8).
MED12 is part of the CDK8 submodule of the mediator complex and is required for the stable interaction of this module with the rest of the mediator complex (1,9). The CDK8 module has been shown to be both a negative and positive regulator of transcription, depending on the gene context. The CDK8 module may repress transcription by inhibiting the ability of mediator to recruit RNAPII (10). In addition, the MED12 subunit can recruit the methyltransferase G9a to methylate histone H3K9 to repress a subset of neuronal genes in non-neuronal cells (11). MED12 and the CDK8 module can also positively regulate transcription of Wnt-responsive genes through its interaction with β-catenin, and p53-regulated genes upon UV-induced DNA damage (1,9,12).

Background References

1. Taatjes, D.J. (2010) *Trends Biochem Sci* 35, 315-22.
2. Kornberg, R.D. (2005) *Trends Biochem Sci* 30, 235-9.
3. Malik, S. and Roeder, R.G. (2005) *Trends Biochem Sci* 30, 256-63.
4. Malik, S. et al. (2002) *Mol Cell Biol* 22, 5626-37.
5. Wang, G. et al. (2005) *Mol Cell* 17, 683-94.
6. Kagey, M.H. et al. (2010) *Nature* 467, 430-5.
7. Park, S.W. et al. (2005) *Mol Cell* 19, 643-53.
8. Chen, Z. et al. (2011) *EMBO J* 30, 2405-19.
9. Kim, S. et al. (2006) *J Biol Chem* 281, 14066-75.
10. Knuesel, M.T. et al. (2009) *Genes Dev* 23, 439-51.
11. Ding, N. et al. (2008) *Mol Cell* 31, 347-59.
12. Galbraith, M.D. et al. (2010) *Transcription* 1, 4-12.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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Limited Uses